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Forest Service
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Reply To: 3420
(Report C93-6)

Date: March 15, 1993

Subject: Dwarf Mistletoe/Domingo Reforestation Project

To: Dave McHardy, Calaveras RD

On February 18, 1993, Mike Rutty and I met with Kevin Locke and Dennis Hall at the Calaveras Ranger Station. We met to discuss approaches to minimize the effects of dwarf mistletoe on existing and future stands within and adjacent to the Domingo Reforestation Project. Although Forest Pest Management suppression dollars can be used for dwarf mistletoe control, under certain conditions, it was our intent to try and deal with this pest through site preparation and planting activities.

Background/Observations: The Old Gulch Fire burned about 1500 acres of second growth conifer stands in the summer of 1992. The area lies between 3000 and 3600 feet elevation and was predominantly ponderosa pine with scattered incense-cedar, sugar pine, and California black oak. Most trees within the burn were completely destroyed and few live trees remain inside the perimeter.

Dwarf mistletoe on ponderosa pine, caused by Arceuthobium campylopodum, was observed on a few pines within the burn and others on the edge of the burn. Trees affected were generally between 12 and 20 inches DBH. Infections we saw were not severe and would be rated 3 or less using the Hawksworth dwarf mistletoe rating system. Most mistletoe plants were in the lower half of the live crown and rarely were higher than 40 feet above ground. No dwarf mistletoe was observed in sugar pine and no true mistletoe was present on incense-cedar.

Conclusions/Management Options: A variety of silvicultural options are available to minimize the future effects of dwarf mistletoe. The main objective of treatments will be to prevent the spread of mistletoe from infected residuals to planted or natural regeneration. Treatment selection will be guided by the desire to retain as many green trees as possible because of visual considerations. The options below are based on the assumption that only western dwarf mistletoe on ponderosa pine is present.

1. If there is no susceptible understory to protect, dwarf mistletoe infections in the overstory can be tolerated. The exception to this is the occasional heavily infected pine (rated 5 or 6) that is likely to die because of the mistletoe. Removal of witches' brooms can extend the life of these trees even though mistletoe remains in the tree as a source of seed.

2. If ponderosa pine is to be planted, or existing pine regeneration is to be protected, treat the infected PP overstory:

   a. Remove trees with dwarf mistletoe ratings of 4 or more.

   b. Girdle/kill trees with ratings of 4 or more and leave on site.

   c. Prune all infections from trees rated 3 or less, but ensure that there will be at least 30% live crown remaining after pruning.

3. If non-susceptible species (SP, IC, DF) are planted, infected overstory ponderosa pine does not have to be treated. In most cases, dwarf mistletoe seed will not spread more than 40-50 feet from infected residuals. Ponderosa pine can be planted beyond this distance.

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